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R307. Environmental Quality, Air Quality.

R307-355. Control of Emissions from Aerospace Manufacture and Rework Facilities.

R307-355-1. Purpose.

The purpose of R307-355 is to limit the emissions of volatile organic compounds (VOCs) from aerospace coatings and adhesives, from organic solvent cleaning, and from the storage and disposal of solvents and waste solvent materials associated with the use of aerospace coatings and adhesives.

R307-355-2. Applicability.

R307-355 applies to all aerospace manufacture and rework facilities that have the potential to emit 10 tons or more per year of VOCs and that are located in Box Elder, Cache, Davis, Salt Lake, Utah, Tooele and Weber counties.

R307-355-3. Exemptions.

(1) R307-355 does not apply:

(a) Where cleaning and coating takes place in research and development, quality control, laboratory testing and electronic parts and assemblies, except for cleaning and coating of completed assemblies;

(b) To manufacturing or rework operations involving space vehicles; and

(c) To rework operations performed on antique aerospace vehicles or components.

R307-355-4. Definitions.

The following additional definitions apply to R307-355:

"Aerospace manufacture" and "rework facility" means any installation that produces, reworks, or repairs in any amount any commercial, civil, or military aerospace vehicle or component.

"Antique aerospace vehicle or component" means an aircraft or component thereof that was built at least 30 years ago and would not routinely be in commercial or military service in the capacity for which it was designed.

"Chemical milling maskants" means a coating that is applied directly to aluminum components to protect surface areas when chemical milling the component with a Type I or Type II etchant. Type I chemical milling maskants are used with a Type I etchant and Type II chemical milling maskants are used with a Type II etchant.

"Exempt solvents" means organic chemicals that are not defined as VOC.

"General aviation rework facility" means any aerospace installation with the majority of its revenues resulting from the reconstruction, repair, maintenance, repainting, conversion, or alteration of general aviation aerospace vehicles or components.

"Low vapor pressure hydrocarbon-based cleaning solvent" means a cleaning solvent that is composed of a mixture of photochemically reactive hydrocarbons and oxygenated hydrocarbons and has a maximum vapor pressure of 7 mm Hg at 68 degrees Fahrenheit. These cleaners must not contain hazardous air pollutants.

"Space vehicle" means a man-made device, either manned or

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unmanned, designed for operation beyond earth's atmosphere. This definition includes integral equipment such as models, mock-ups, prototypes, mold, jigs, tooling, hardware jackets and test coupons.

Also included, auxiliary equipment associated with test, transport and storage that through contamination can compromise the space vehicle performance.

"Specialty coating" means a coating that, even though it meets the definition of a primer, topcoat, or self-priming topcoat, has additional performance criteria beyond those of primers, topcoats, and self-priming topcoats for specific applications.

(1) These performance criteria may include, but are not limited to, temperature or fire resistance, substrate compatibility, antireflection, temporary protection or marking, sealing, adhesively joining substrates, or enhanced corrosion protection.

(2) Individual specialty coatings are defined in Appendix A of 40 CFR 63 subpart GG, which is incorporated by reference.

"Topcoat" means a coating that is applied over a primer or component for appearance, identification, camouflage, or protection.

Topcoats that are defined as specialty coatings are not included under this definition.

R307-355-5. ~~[Emission Standards]~~VOC Content Limits.

(1) The owner or operator shall not ~~[cause, permit, or allow]~~ apply [the emissions of VOCs from the] coatings to aerospace vehicles or components with a VOC content in excess as follows ~~[of aerospace vehicles or components to exceed]~~:

(a) 2.9 pounds per gallon of coating, excluding water and exempt solvents, delivered to a coating applicator that applies primers. For general aviation rework facilities, the VOC limitation shall be 4.5 pounds per gallon of coating, excluding water and exempt solvents, delivered to a coating applicator that applies primers;

(b) 3.5 pounds per gallon of coating, excluding water and exempt solvents, delivered to a coating applicator that applies topcoats (including self-priming topcoats). For general aviation rework facilities, the VOC limit shall be 4.5 pounds per gallon of coating, excluding water and exempt solvents, delivered to a coating applicator that applies topcoats (including self-priming topcoats);

(c) 5.2 pounds per gallon of coating, excluding water and exempt solvents, delivered to a coating applicator that applies Type I chemical milling maskant;

(d) 1.3 pounds per gallon of coating, excluding water and exempt solvents, delivered to a coating applicator that applies Type II chemical milling maskants; and

(e) Emissions of VOCs from specialty coatings in excess of the amounts specified in EPA-453/R-97-004, December 1997, page B-2, hereby incorporated by reference.

(2) The owner or operator may alternatively comply with R307-355-5(1)(a) through (d) by using an add-on control device as specified in R307-355-9.

(3) The following coating applications are exempt from the VOC content limits in R307-355-5(1);

(a) Touchup and repair operations.

(b) Use of hand-held spray can application method.

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- (c) Department of Defense classified coatings.
- (d) Coatings of space vehicles.
- (e) Facilities that use separate formulations in volumes of less than 50 gallons per year subject to a maximum exemption of 200 gallons total for such formulations applied annually.

R307-355-6. Application Method.

(1) No owner or operator shall apply any primer or topcoat unless the primer and topcoat is applied with equipment operated according to the equipment manufacturer specifications or by the use of one of the following methods:

- (a) Electrostatic application;
- (b) Flow/curtain coat;
- (c) Dip/electrodeposition coat;
- (d) Roll coat;
- (e) Brush coating;
- (f) cotton-tipped swab application;
- (g) High-Volume, Low-Pressure (HVLP) Spray;
- (h) Hand Application Methods; or
- (i) Other coating application methods that achieve emission reductions equivalent to HVLP or electrostatic spray application methods, as determined according to the requirements in 40 CFR 63.750(i).

(2) The following conditions are exempt from R307-355-6(1):

(a) Any situation that normally requires the use of an airbrush or an extension on the spray gun to properly reach limited access spaces.

(b) The application of coatings that contain fillers that adversely affect atomization with HVLP spray guns and that cannot be applied by any of the application methods specified in R307-355-6.

(c) The application of coatings that normally have dried film thickness of less than 0.0013 centimeters (0.0005 inches) and that cannot be applied by any of the application methods specified in R307-355-6.

(d) The use of airbrush application methods for stenciling, lettering, and other identification markings.

(e) The use of hand-held spray can application methods.

(f) Touch-up and repair operations.

(g) Application of specialty coatings.

R307-355-7. Work Practices and Recordkeeping.

(1) Control techniques and work practices shall be implemented at all times to reduce VOC emissions[~~from fugitive type sources~~]. Control techniques and work practices shall include, but are not limited to:

(a) Storing all VOC-containing coatings, adhesives, thinners, and coating-related waste materials in closed containers;

(b) Ensuring that mixing and storage containers used for VOC-containing coatings, adhesives, thinners, and coating-related waste material are kept closed at all times except when depositing or removing these materials;

(c) Minimizing spills of VOC-containing coatings, adhesives, thinners, and coating-related waste materials; and

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(d) Conveying VOC-containing coatings, adhesives, thinners, and coating-related waste materials from one location to another in closed container or pipes.

(2) All sources subject to R307-355 shall maintain records demonstrating compliance with~~[-all provisions of]~~ R307-355-5, R307-355-6 and R307-355-8~~[-on an annual basis]~~.

(a) Records shall include, but not be limited to, inventory and product data sheets of all coatings and solvents subject to R307-355.

(b) These records shall be available to the Director upon request.

R307-355-8. Solvent Cleaning.

(1) Hand-wipe cleaning. Cleaning solvents used in hand-wipe cleaning operations shall meet one of the following requirements:

(a) Have a VOC composite vapor pressure less than or equal to 45 mm Hg at 68 degrees Fahrenheit;

(b) Have an aqueous cleaning solvent in which water is at least 80% of the solvent as applied; or

(c) Have a low vapor pressure hydrocarbon-based cleaning solvent.

(2) The following exemptions apply:

(a) Cleaning during the manufacture, assembly, installation, maintenance, or testing of components of breathing oxygen systems that are exposed to the breathing oxygen.

(b) Cleaning during the manufacture, assembly, installation, maintenance, or testing of parts, subassemblies, or assemblies that are exposed to strong oxidizers or reducers (e.g., nitrogen tetroxide, liquid oxygen, hydrazine).

(c) Cleaning and surface activation prior to adhesive bonding.

(d) Cleaning of electronics parts and assemblies containing electronics parts.

(e) Cleaning of aircraft and ground support equipment fluid systems that are exposed to the fluid, including air-to-air heat exchangers and hydraulic fluid systems.

(f) Cleaning of fuel cells, fuel tanks, and confined spaces.

(g) Surface cleaning of solar cells, coated optics, and thermal control surfaces.

(h) Cleaning during fabrication, assembly, installation, and maintenance of upholstery, curtains, carpet, and other textile materials used on the interior of the aircraft.

(i) Cleaning of metallic and nonmetallic materials used in honeycomb cores during the manufacture or maintenance of these cores, and cleaning of the completed cores used in the manufacture of aerospace vehicles or components.

(j) Cleaning of aircraft transparencies, polycarbonate, or glass substrates.

(k) Cleaning and solvent usage associated with research and development, quality control, or laboratory testing.

(l) Cleaning operations, using nonflammable liquids, conducted within five feet of energized electrical systems.

(3) Flush cleaning. Cleaning solvents used in flush cleaning of parts, assemblies and coating unit components must be emptied into

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an enclosed container or collection system that is kept closed when not in use.

(4) Spray gun cleaning. All spray guns shall be cleaned by one or more of the following methods:

(a) Enclosed system that is closed at all times except when inserting or removing the spray gun. If leaks in the system are found, repairs shall be made as soon as practicable, but no later than 15 days after the leak was found. If the leak is not repaired by the 15th day, the cleaning solvent shall be removed and the enclosed cleaner shall be shut down until the leak is repaired or its use is permanently discontinued.

(b) Nonatomized cleaning.

(i) Spray guns shall be cleaned by placing cleaning solvent in the pressure pot and forcing it through the gun with the atomizing cap in place.

(ii) No atomizing air is to be used.

(iii) The cleaning solvent from the spray gun shall be directed into a vat, drum, or other waste container that is closed when not in use.

(c) Disassembled spray gun cleaning.

(i) Spray guns shall be cleaned by disassembling and cleaning the components by hand in a vat, which shall remain closed at all times except when in use.

(ii) Spray gun components shall be soaked in a vat, which shall remain closed during the soaking period and when not inserting or removing components.

(d) Atomizing spray into a waste container that is fitted with a device designed to capture atomized solvent emissions.

(e) Cleaning of the nozzle tips of automated spray equipment systems, except for robotic systems that can be programmed to spray into a closed container, shall be exempt from these requirements.

R307-355-9. ~~[Optional]~~Add-On Control[s] Systems Operations.

~~[(1) The owner or operator may install and maintain an incinerator, carbon adsorption, or any other add-on emission control device, provided that the emission control device will attain at least 81% efficiency performance.]~~

~~[(2) The owner or operator of a control device system shall provide documentation that the emission control system will attain the requirements of R307-355-9.]~~

~~[(3) Emission control systems shall be operated and maintained in accordance with the manufacturer recommendations. The owner or operator shall maintain for a minimum of two years records of operating and maintenance sufficient to demonstrate that the equipment is being operated and maintained in accordance with the manufacturer recommendations.]~~

(1) The owner or operator shall install and maintain an incinerator, carbon adsorption, or any other add-on emission control system, provided that the emission control system is operated and maintained in accordance with the manufacturer recommendations in order to maintain at least 81% capture and control efficiency. Determination of overall capture and control efficiency shall be determined using EPA approved methods, as follows.

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(a) The capture efficiency of a VOC emission control system's VOC collection device shall be determined according to EPA's "Guidelines for Determining Capture Efficiency," January 9, 1995 and 40 CFR Part 51, Appendix M, Methods 204-204F, as applicable.

(b) The control efficiency of a VOC emission control system's VOC control device shall be determined using test methods in Appendices A-1, A-6, and A-7 to 40 CFR Part 60, for measuring flow rates, total gaseous organic concentrations, or emissions of exempt compounds, as applicable.

(c) An alternative test method may be substituted for the preceding test methods after review and approval by the EPA Administrator.

(2) The owner or operator of a control system shall provide documentation that the emission control system will attain the requirements of R307-355-9(1).

(3) The owner or operator shall maintain records of key system parameters necessary to ensure compliance with R307-355-9. Key system parameters may include, but are not limited to, temperature, pressure and flow rates. Operator inspection schedule, monitoring, recordkeeping, and key parameters shall be in accordance with the manufacturer's recommendations, and as required to demonstrate operations are providing continuous emission reduction from the source during all periods that the operations cause emissions from the source.

(4) The owner or operator shall maintain for a minimum of two years records of operating and maintenance sufficient to demonstrate that the equipment is being operated and maintained in accordance with the manufacturer recommendations.

[R307-355-10. Compliance Schedule.]

~~All sources within Box Elder, Cache, Davis, Salt Lake, Tooele, Utah and Weber counties shall be in compliance by January 1, 2014.]~~

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